

Applicant: Joseph A. Kwak
Application No.: 10/084,043

In the Claims

Please amend the claims as follows:

1. (Currently Amended) A method for adjusting data modulation at a base station comprising:

receiving data from a higher layer ARQ mechanism at a transmitter for transmission;

formatting the received data into packets for transmission, the packets being smaller in size than the data blocks, and each packet having a particular type of encoding/data modulation;

appending an the error check sequence for each packet sequencees;

providing a physical layer ARQ mechanism performing steps including:

transmitting the packets;

storing the packets for retransmission in a buffer memory incorporated into the transmitter;

monitoring a return channel for receipt of an acknowledgment for each packet that the packet has been received;

limiting the number of retransmissions to an operator-defined integer value;

clearing the buffer memory after the integer value is reached; and

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retransmitting an original or selectively modified packet at the transmitter, if an acknowledgment for that packet has not been received; wherein the physical layer ARQ mechanism operates transparently with respect to the higher layer ARQ mechanism wherein the retransmitted original or selectively modified packets are combined with originally transmitted packets.

2. (Original) The method of claim 1 wherein the particular type of encoding/data modulation is forward error correction (FEC).

3. (Original) The method of claim 2 wherein the packets are transmitted using an orthogonal frequency division multiple access (OFDMA) air interface and the particular FEC encoding/data modulation adjusting is performed in addition to selective nulling of subchannels in an OFDMA set.

4. (Original) The method of claim 1 wherein the packets are transmitted using a single carrier having a frequency domain equalization (SC-FDE) air interface.

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5. (Original) The method of claim 1 wherein the return channel is the fast feedback channel when the packets are transmitted using a code division multiple access (CDMA) air interface.

6. (Original) The method of claim 1 further comprising:
identifying a packet as having an unacceptable error rate responsive to receipt of a negative acknowledgment.

7 - 9. (Canceled).

10. (Previously presented) The method of claim 1 wherein the physical layer ARQ mechanism reduces retransmissions required by the higher layer ARQ mechanism.

11. (Currently Amended) A method for adjusting data modulation at a base station in orthogonal frequency division multiple access (OFDMA) system, the method comprising:

receiving data from a higher layer ARQ mechanism at a transmitter for transmission;

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formatting the received data into packets for transmission, the packets being smaller in size than the data blocks, and each packet having a particular type of encoding/data modulation;

appending an the error check sequence for each packet sequences;

providing a physical layer ARQ mechanism performing steps including:

transmitting the packets;

storing the packets for retransmission in a buffer memory incorporated into the transmitter;

monitoring a return channel for receipt of an acknowledgment for each packet that the packet has been received;

limiting the number of retransmissions to an operator-defined integer value;

clearing the buffer memory after the integer value is reached;

varying subchannels used for transmitting the packets; and

retransmitting selectively modified packets at the transmitter, if an acknowledgment for that packet has not been received; wherein the physical layer ARQ mechanism operates transparently with respect to the higher layer ARQ mechanism wherein the retransmitted selectively modified packets are combined with originally transmitted packets.